of the finest kind. The effect is, in fact, in some respects, superior to that of the finest veneering used in framing prints, for while every description of wood may be imitated in this manner, the brilliancy and polish of the material affords a great advantage both in beauty and durability. In cheapness also, a very important point, the superiority of the new adaptation will, we imagine, be no less apparent over the working of the more expensive woods." Picture-frames too, of all sorts, will be in greater request, for the cost of glass being lessened, drawings and prints will be framed and hung up more universally than formerly.

To horticulture the alteration will be of the greatest service; and many persons will now be able to enjoy the pleasure of a conservatory, or hot-house, who have been prevented up to this time by the cost of maintaining such structures. The duty being levied by weight, and crown-glass sold by measure, the manufacturer has been led to reduce its substance as far as possible, and the result is that much glass is used which will hardly bear its own weight, or keep out the wind; and in greenhouses and such erections the breakage is a constant and heavy expense.

Glass, besides being cheap, will now be more durable, for the materials of which it is composed are so inexpensive, that the manufacturer will be led, as lessening the risk to himself, to make the glass much stouter.

There is yet a more important consideration in connection with the removal of this impost, and that is, as it concerns the general health. A prohibition of light is a direct encouragement of dirty habits, disease, and immorality. Light is as necessary as air and food, and a deficiency of it leads to numerous disorders.

So long as the infamous window-tax is continued, the cheapening of glass will produce in this respect but little improvement; but as that tax *must* ultimately be removed, or so altered as no longer to offer a premium for unhealthy arrangements, we may anticipate at no distant period most important advantages. Want of ventilation, deficiency of light, and a corrupt atmosphere, hurry thousands to a premature grave, and unfit even a larger number for the due enjoyment of life.

A writer in the *Lancet* says:—

"The fact of the multiplicity of windows being an immense advantage for health, is most important, and should be strongly impressed on the public mind whenever the opportunity offers. It must not, either, be forgotten, that in this respect we have not only the window-tax to contend with, but architectural prejudices.

"Our ideas of architectural beauty are principally derived from the buildings of southern Europe, where the intensity of light is so great, that it has rather to be avoided than courted, and where it is less necessary to favour its admission into dwellings, from the inhabitants spending so much of their time in the open air. The result is, that among architects a multiplicity of windows is considered a defect instead of a beauty, and studiously avoided. We trust, however, that no such doctrine will be allowed to exercise a permanent sway in a climate to which it so little applies, and that, however detrimental to architectural beauty windows may be considered to be, their importance in a hygienic point of view, will be the paramount consideration."

We will conclude our present notice with a brief reference to the history of glazing windows, comparatively a modern application of the material. Artisans were brought from abroad in the 8th century, to glaze the church windows at Weremouth, in Durham, and glass continued to be used partially from that time. For some centuries, however, it was considered a moveable luxury, not necessarily part of the house. In 1505 it was held in law that though the windows belonged to the heir, the glass was the property of the executors, and might therefore of course be removed by them, *because the house was perfect without the glass.*

So late as 1567, an entry then made in the minutes of a survey at Alnwick Castle, the seat of the Duke of Northumberland, shews that the glass casements were taken down during the absence of the family to preserve them from accidents: and even at the end of the 17th century, that the lower rooms in the royal palaces in Scotland were without them, and had simply wooden shutters to exclude the air, and, at the same time, the light.

The first regular window-glass manufactory of which we have any account, appears to have been commenced in Crutched Friars, London, in the year 1557. The first sheets of blown glass were made at Lambeth in 1663. In 1691, the glass made at the Bear-garden on the Bankside was called "Crown window glass, exceeding French glass in all its qualifications." The same manufactory was afterwards removed to Ratcliffe, and the glass became celebrated as "Ratcliffe crown glass." This and the other glass-houses in London were ultimately abandoned, on account of the expense of fuel, and at this time we believe there is not one left. Newcastle-upon-Tyne, Stourbridge, Bristol, Liverpool, Warrington, Birmingham, and Leeds, are the chief seats of the manufacture in England.

The duty on flint-glass is very inconsiderable, 7*s.* per cwt., as compared with that on crown-glass, and for some time little difference will be found in the price of cut-glass articles; hereafter, however, for reasons before stated, its cost will, without doubt, be considerably lessened. Crown-glass differs from flint-glass simply in this respect, that it does not contain lead nor any metallic oxide except manganese, and occasionally a minute portion of oxide of cobalt, to destroy colour. This they do by what at first sight seems paradoxical, namely by each imparting colour. The manganese gives a slight tinge of red, the cobalt of blue, while the sand and alkali produce a yellow tinge; but the colours neutralize each other, and the result is an almost perfectly transparent material. The glass manufacturers, when the alteration was first announced, were alarmed by a statement, that no drawback would be allowed on the stock in hand. Several deputations attended the minister, to shew the injuries they would sustain by the removal of the duties, and in consequence, arrangements have been made to meet their views. The following is a copy of the order issued by the excise:—

"The board have received instructions from the Lords Commissioners of her Majesty's Treasury to allow drawbacks on glass on the following conditions:—

1. Warehouses at the cost of the manufacturers or dealers must be provided, and being approved by the excise, put under our lock. These warehouses to be at the different manufactories, and in each town where we have a supervisor.

2. That no glass be warehoused excepting under the same regulations as if for export.

3. That no quantity of crown or German sheet glass less than 10 cwt. be received at the same time from any individual.

4. That each package be marked with the net and gross weight, and with the name and abode of the depositor.

5. That the bottle on the manufacturing premises of such of the bottle makers as require it shall be taken account of and warehoused, or secured by the excise.

6. That on the repeal of the duty on crown, German sheet, and bottle glass, the quantities so under the excise locks shall be delivered to the respective owners, precautions being taken to ascertain that such quantities correspond with those deposited.

7. That so soon as the re-deliveries shall be completed, and the accounts have been examined and certified at the head office, the owners shall receive documents authorizing them to claim the sums to which they would have been respectively entitled by way of drawback on exportation, deducting 25*l.* per cent.

8. That on the 5th day of April, the stocks of plate-glass, whether in the rough, smoothed, or polished state, be taken; and on all rectangular pieces of 6 inches by 4 at the least, and not less than 1-8th of an inch in thickness, the sum of 1*s.* 10½*d.* per square foot be allowed, and on such as is polished and not 1-8th of an inch in thickness, the sum of 4*l.* 4*s.* per cwt.; if unpolished and under 1-8th in thickness, no allowance."

HEALTH OF TOWNS.—Mr. Mackinnon has postponed his motion relative to the Health of Towns until the first Monday after Easter.

BATHS AND WASH-HOUSES.—An exhibition of the competition designs for the first model establishment will take place at Mr. Rainy's gallery, 14, Regent-street, on Monday next, and the three following days.

CONSTANTINE'S BRIDGE OVER THE RHINE AT COLOGNE.

MANY of our readers have, no doubt, visited the bridge of boats thrown across the Rhine from Cologne to Deutz; and many of them have most probably been informed by the "*cicerone*" that a stone bridge once united the two towns, the remains of which (as he asserts) are still to be seen at the Beyen Thurm, at the southern end of the town, and to which, as an object of interest, the traveller is generally conducted.

That a stone bridge across the Rhine, or, at least, the foundation of one, did once exist we have every reason to believe; but that the projection at the Beyen Thurm formed a part of it (and which a casual observer would readily suppose) is a decided fallacy. The projection, which juts at that point into the Rhine, formed the foundation of a screen, entitled "*die Arck*," on which two guard-houses were built, and under which was an arch for the passage of small vessels at such times as the Rhine was barred, as was the case in the years 1414 up to 1463, when Cologne was in league with the Duke of Berg against its Archbishop Dietrich von Moers. This projection was connected by a wall with the Thurm or tower. In October, 1556, the town council decided that this projection should be demolished, being of opinion that the stream was thereby forced towards Deutz. This order was, however, not carried into execution (although repeated in 1583) until the seventeenth century. At the northern end of the town a similar projection with tower existed, and was, in like manner, connected by a wall with the Cunibert's Thurm, the lower part of which is still standing; so that here, as at the Beyen, ingress and egress to the town could, when required, be prevented. The above has been clearly proved by historians; and by visiting St. Gereon's Church, a picture may still be seen under the altar-piece, representing the projections, and shewing clearly the use for which they were designed.

We have said that we have every reason to believe that a stone bridge, or at least the foundation of one, did exist. That the Roman emperor Constantine caused it to be built has been doubted by many. In 1766, the water being very low, the engineer Rheinhart endeavoured to discover its remains, and after a lengthened search found, in the bed of the Rhine near the Salzgassen Gate, massive stone columns, as of arches, still standing. He states the distance of these columns from each other to have been 7 Ruthen, 4 inches Rheinland (86 feet 9 inches English), and the breadth of the bridge 36 feet 8 inches Rheinland (37 feet 9 inches English). Many other historical grounds may be given in favour of our opinion, and it may be safely said that Constantine commenced this bridge, but most probably did not succeed in finishing it. We read, however, that the Emperor Otto I. quarrelled with his brother Bruno I., Archbishop of Cologne, owing to the latter having caused the old Roman bridge to be demolished in the year 950, in order to make use of the materials for building the church and cloisters of St. Pantaleon. This would lead us to believe that the bridge was really finished, or why this quarrel?

According to Wallraf,* the Roman bridge, commenced at the Old Mars Gate, passed over the left or smaller arm of the Rhine, and was guarded by two towers at its connection with the Rheininsel. This assertion is not only in direct opposition to the discoveries of Rheinhart, but is also entirely ungrounded, and cannot be proved either historically or otherwise, no writers having spoken of it, and no remains having been ever found on or near the spot.

From an inscription found in St. Heribert's Abbey, in Deutz, we are led to believe that Constantine caused a tower to be built on the eastern bank of the Rhine to guard the bridge, and from which Deutz took its origin. The authenticity of this inscription is, however, greatly to be doubted. It is possible, and more than likely, that Constantine caused a castle or tower to be built on that bank to guard the passage across the Rhine from the attack of neighbouring enemies, but that this tower was a part of the bridge still remains to be proved.

* See Wallraf's "Beiträge zur Geschichte der Stadt Köln."

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